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SCHOOLING AND THE DISTRIBUTION OF WAGES IN THE EUROPEAN PRIVATE AND PUBLIC SECTORS

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Abstract

International research has shown that schooling enhances within-groups wage dispersion. This assessment is typically based on private sector data and, up to date, the inequality implications of schooling have not been documented for the public sector. This paper uses recent data from eight European countries to explicitly take into account differences between the private and public sectors. Using quantile regression, the paper describes the effects of schooling on the location and shape of the conditional wage distribution in each sector. While the average impact of schooling on wages is similar across sectors, the impact of schooling on within-groups dispersion is found to be substantially larger in the private sector than in the public sector. This finding warns that the effects of the European educational expansion on overall within-groups dispersion may be lower than previously thought.

Keywords: Returns to schooling, Quantile regression, Within-groups wage inequality.

JEL classification: D31, I21, J45.

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I. Introduction

This paper intends to shed further light on the interplay between schooling and within-groups wage dispersion using recent data from eight European countries: Finland, France, Germany, Italy, Norway, Portugal, Sweden and the UK. Up to date, the inequality implications of schooling have not been compared between the private and public sectors: while the impact of schooling on within-groups dispersion has been well documented for the private sector, evidence for the public sector is mostly lacking[2]. This paper takes a step towards filling this gap by asking: does the conditional wage distribution of education groups, and thus the impact of schooling on within-groups dispersion, differ across sectors?

The public sector has always attracted policy attention. The government is typically the largest employer in the economy and, as such, its wage settlements can exert a strong influence on those in the private sector. Despite recent efforts to increase both competition and efficiency of the public sector, most economies still see significant differences between the two sectors regarding the criteria adopted to select, recruit and promote workers, the adjustment of wage levels, the degree of regulation, and the role of collective bargaining and trade unions, thus resulting into a different distribution of earnings across sectors. As the public and the private sector compete on the labour market, differences in the wage structure may have important implications for the sorting of workers across sectors, the demand for certain types of qualifications, and the overall wage inequality.

The existing literature on wage distributions in the public and private sectors is predominantly based on the public sector pay premium (Terrell, 1993, Hartog and Oosterbeck, 1993, Poterba and Rueben, 1994, Dustmann and Van Soest, 1997, 1998, Disney and Gosling, 1998, Mueller,

[2] Buchinsky (1994) pools together private and public servants and, therefore, does not differentiate between sectors. Hartog *et al.* (2001), Machado and Mata (2005), Martins and Pereira (2004), and Budría and Pereira (2005), in turn, restrict the analysis to private sector workers.

1998, Tansel, 2005, Melly, 2005). The perspective of this paper is slightly different. Rather than calculating the wage differential between private and public sector workers for the total working population or for specific population groups, the paper examines wage differences within education groups in the private and the public sector. Unlike previous work, this paper does not attempt to examine the impact of public sector status on the conditional wage distribution. Rather, it describes and compares the effects of schooling on the conditional distribution of each sector.

To that purpose, the paper exploits the following idea: schooling, rather than assuring a certain amount of earnings, gives access to a distribution of earnings. That distribution is characterized using Ordinary Least Squares (OLS) and Quantile Regression (QR) methods. Estimation by OLS assumes that the marginal impact of schooling on wages is constant over the wage distribution. In this case, the effect of having one additional year of schooling can be represented by a shift (to the right) of the conditional wage distribution. Quantile returns, in turn, measure the wage effects of schooling at different points of the distribution, thus describing changes not only in the location but also in the shape of the distribution. By combining OLS with quantile regression, we can assess the impact of education on wage inequality between and within groups: while OLS returns measure the average differential between education groups, differences in quantile returns represent the wage differential between individuals that are in the same group but located at different quantiles.

The rest of the paper is organized as follows. Section II describes the countries, datasets and variables used for the analysis. Overall wage inequality in Europe is described by reporting several measures of unconditional dispersion for the surveyed countries. Section III presents the quantile regression model. Section IV presents average and quantile estimates of the returns to schooling. Differences between sectors regarding the impact of schooling on wage dispersion

are discussed. Section V outlines some hypothesis that may account for the observed patterns. Section VI presents the concluding remarks. The paper includes an Appendix that describes the national data sources and estimating samples.

II. Countries, datasets and variables

We collect data on earnings and education for Finland, France, Germany, Italy, Norway, Portugal, Sweden and the UK. This was achieved under the framework of a research project, 'Education and Wage Inequality in Europe' (EDWIN), where each country team analyzed their country datasets[3]. In the Appendix, we briefly describe such datasets, including the years for which the information applies, the number of observations used, and additional information concerning country-specific definitions of variables.

We use the same estimation procedure and population group for all countries. We have restricted the sample to male wage earners, aged between 18 and 60, who work normally between 35 and 85 hours a week, and are not employed in the agricultural sector. Self-employed individuals, as well as those whose main activity status is paid apprenticeship, training, and unpaid family worker have been excluded from the sample. The case of women is disregarded on account of the extra complication of potential selectivity bias. Workers with a monthly wage rate that is less than 10% or over 10 times the average wage have also been excluded.

The dependent variable is the logarithm of hourly wages. Wages are measured before taxes in Finland, France, Germany, Norway, Sweden and the UK, and after taxes in Italy and Portugal. Even though the aim of the paper is not to conduct a thorough comparison across countries, differences in the dependent variable should be taken into account when comparing the results.

[3] Due to contractual reasons, the national datasets could not be transferred across countries. For a detailed description of the EDWIN project and the national datasets, see http://www.etla.fi/edwin and Budria and Pereira (2005).

Table 1 presents descriptive statistics for each country. The first column reports the proportion of the sample individuals working in each sector. Public servants account for 17.3% in Finland up to 26.7% in Norway. The next columns report the average number of schooling years and professional experience. Average schooling years are well above ten years, with the exception of Portugal, while experience levels are about 20 years in all countries. The last four columns report the ratios between wages at different deciles of the wage distribution and the Gini indexes. Wages at the 9th decile are between two and three times larger than wages at the 1st decile. The 9/5 ratio is higher than the 5/1 ratio in most cases, indicating that in Europe wage dispersion is relatively larger in the top part of the wage distribution. Relative to workers in the private sector, public sector servants are more educated, have more experience, and with the exception of Portugal and Sweden, show lower wage dispersion.

---------- Insert Table 1 about here -------

III. The model

The quantile regression model can be written as

$$ln\, w_i = X_i \beta_\theta + e_{\theta i} \qquad \text{with } Quant_\theta(\, ln\, w_i | X_i\,) = X_i \beta_\theta \tag{1}$$

where X_i is the vector of exogenous variables and β_θ is the vector of parameters[4]. $Quant_\theta(ln\ w_i|\ X_i)$ denotes the θth conditional quantile of $ln\ w$ given X. The θth regression quantile, $0<\theta<1$, is defined as a solution to the problem

[4] For a survey of quantile regression models and some applications, see Buchinsky (1998), Fitzenberger *et al.* (2001), and Koenker and Hallock (2001).

$$\underset{\beta_\theta \in R^k}{Min}\left\{ \sum_{i:ln\, w_i \geq x_i\beta_\theta} \theta \left| ln\, w_i - X_i\beta_\theta \right| + \sum_{i:ln\, w_i < x_i\beta_\theta} (1-\theta) \left| ln\, w_i - X_i\beta_\theta \right| \right\} \quad (2)$$

This problem is solved using linear programming methods. Standard errors for the vector of coefficients are obtainable by using the bootstrap method described in Buchinsky (1998). Our wage equation includes years of schooling, experience and experience squared,

$$ln\, w_i = \alpha_\theta + \beta_\theta\, years_i + \delta_{\theta 1} exp_i + \delta_{\theta 2} exp_i^{\,2} + e_{\theta i} \quad (3)$$

where θ = .1, .2, …, .9 is the quantile being analyzed. This parsimonious specification is a working compromise to have a common equation for all countries, as some typical variables in wage equations –such as tenure, occupation and part-time job– were not available in some of the national datasets. Moreover, according to the meta-analysis conducted by Pereira and Martins (2004), the simplest Mincer specification suffices to provide a good approximation of the value for the total return to education. Finally, using years of schooling rather than levels of education facilitates the comparison with previous works, as most other papers are based on the former variable.

IV. Empirical results

In this section we calculate OLS returns to schooling as well as conditional returns at five representative quantiles: .10, .25, .50, .75, and .90. Henceforth, we will denote these quantiles by 10q, 25q, 50q, 75q and 90q.

Before presenting our results, it must be pointed out that some authors attempt to instrument

sector choice using some observable characteristics that are related to the sector status but unrelated to wages. Workers might be heterogeneous across sectors with respect to some unmeasured characteristics in a non-random way, such as risk aversion, motivation, preferences for public sector work, etc., and self-select themselves according to those features. If this is the case and these characteristics are related to wages, then standard estimates of the returns to observable characteristics may be biased. However, there is no consisting evidence that controlling for selection yields more reliable estimates. In general, the validity of the instruments is questionable, as it is not clear whether the variables that explain sector choice are excludable from the wage equation. Probably due to differences in the quality of the instruments, the magnitude of selection effects is found to vary considerably across studies. With this in mind and given the impossibility to find valid instruments that are common to the surveyed countries, this paper disregards selection effects[5].

A. The private sector…

The first set of results is presented in Table 2. As expected, education gives a substantial reward in the labour market. The average return to an additional year of schooling ranges from 5.67% in Italy to 8.98% in Finland, at an average of 7.13%. In all countries, the estimated return is significant at the 1% level. However, the impact of schooling on wages is not constant over the wage distribution. The schooling coefficient is higher at the upper parts of the distribution than at the lower parts, meaning that workers at high-pay jobs earn substantially higher returns from schooling than workers at low-pay jobs. France and Portugal are two illustrative examples. In France an average return of 7.39% masks a return of only 4.10% in the first quantile and 9.77%

[5] This is also the perspective in Dustmann and Van Soest (1997), Disney and Gosling (1998) and Melly (2005).

in the top quantile. In Portugal, the average return is 7.31%. However, the returns at the bottom and the top of the distribution are, respectively, 5.17% and 8.10%.

---------- Insert Table 2 about here -------

This upward profile has two clear implications. First, the conditional wage distribution of more educated workers is more dispersed than the conditional wage distribution of less educated workers. This has been called 'the inequality increasing effect of education' (Machado and Mata, 2005, p. 457): if we give more education to workers who have the same observable characteristics but are located at different quantiles of the wage distribution, then their wages will become more dispersed. We show that, without exception, this phenomenon is regular across European countries. It may be the case, therefore, that by raising the weight of the high-spread group, an educational expansion in Europe increases overall wage inequality through the within- dimension.

The second implication has to do with schooling as a risky investment. The unexplained component or earnings variation is frequently regarded in the literature as the amount of wage risk. In our setting, that risk can be measured by the differences in the returns across quantiles, as such differences are residual inequalities of pay after controlling for the effect of skill differences by regression results. Our results show that to the extent that prospective students are not aware of the characteristics which will place them at some point of the wage distribution, the returns to their educational investment are largely unpredictable[6].

[6] Including additional controls in the wage equation does not change the estimated wage risk by much. Hartog *et al.* (2001) show that, even after controlling for a large set of observed individual and job characteristics, the variation of returns across quantiles is still large. This uncertainty has recently attracted the attention of researchers, as it may have important consequences on individual earnings levels and earnings growth (Shaw, 1996, Bonin *et al.* 2006), the wage structure (Hartog and Vijverberg, 2002, Hartog *et al.*, 2003) and the decision on extended schooling (Hogan and Walker, 2003, Hartog and Serrano, 2007).

To provide a more illuminating view, in Table 3 we report several measures of wage inequality based on different parts of the distribution. As mentioned above, dispersion across quantiles is substantial. Thus, for example, the return differential between the 90q and the 10q quantiles ranges from 6.01 percentage points in Sweden to 1.88 percentage points in Finland. This means that, relative to workers at low-pay jobs (10q), workers at high-pay jobs (90q) earn from university education (approximately 15 years of schooling) an additional return of 90 percentage points in Sweden and 28 percentage points in Finland. This excess return represents the inequality increasing effect of education or, alternatively, the amount of wage risk associated to schooling.

---------- Insert Table 3 about here -------

Using the information reported in Table 3, we can inspect to what extent the contribution to overall within-groups dispersion differs across segments of the wage distribution. Two patterns are apparent. First, in most countries, the 90q-10q differential more than doubles the 90q-50q differential. Thus, for example, in the UK and Portugal the 90q-10q spread is 6.1 and 4.6 times larger, respectively, than the 90q-50q spread. This indicates that conditional wage dispersion is higher at the bottom part of the wage distribution than at the upper part or, to put it different, that a significant amount of the wage dispersion within the educated arises from differences within individuals earning below-average returns. Italy and Norway, where dispersion is relatively larger at the top part of the wage distribution, are exceptions to the general pattern. Second, with the exception of Germany, in all countries the 75q-25q spread accounts for a large fraction of the 90q-10q spread. Excluding Germany, this fraction ranges from 52% in France up to 91% in Finland. According to this, a substantial amount of the total wage dispersion among the educated takes place in the middle part rather than in the tails of the wage distribution.

B. …and the public sector

Next, we turn to the estimates for the public sector. As Table 4 shows, the average return to an additional year of schooling in the public sector ranges from 4.44% in Italy to 9.73% in Finland, and is statistically significant in all cases. Averaging across countries, the estimated return is 6.40%, a value that is 0.73 percentage points lower than in the private sector. This result is in line with Psacharopoulos' (1994) finding that, worldwide, returns to schooling are somewhat higher in the private sector than in the public sector.

---------- Insert Table 4 about here -------

More interestingly, we find that the tendency of education to be more valued at high-pay jobs is much less apparent in the public sector than in the private sector. As Table 5 shows, only in one country, Italy, returns at the upper quantiles are significantly higher than at the lower quantiles regardless of the quantiles selected. In Finland, France and Sweden, differences across quantiles are significant only when certain parts of the distribution are considered. In the remaining countries, Germany, Norway, Portugal and the UK, the estimated returns are fairly uniform over the conditional wage distribution, indicating that differences in wage dispersion across education groups are small and non-significant.

---------- Insert Table 5 about here -------

C. Differences in wage dispersion and the shape of the conditional wage distributions

As is apparent from the previous analysis, the association between schooling and within-groups dispersion is much sharper in the private sector than in the public sector. To provide a quantitative assessment on this issue, we average across countries and find that while in the

private sector the 90q-10q, 90q-50q, 75q-25q, and 75q-50q spreads are, respectively, 3.38, 1.58, 2.07 and 1.04, in the public sector these spreads fall to 1.50, 1.08, 0.58 and 0.54. Taking the 90q-10q as a reference, we can conclude that in Europe the effect of schooling on within-groups dispersion is, on average, more than two times larger in the private sector than in the public sector. It must be noted that Italy is an exception to the general pattern, as in this country wage inequality within the educated is larger in the public sector than in the private sector.

Next, we examine differences in the shape of the conditional distributions. To that purpose, Figure 1 plots the quantile-return profile in each sector. We detect two groups of countries. In France, Germany, Norway and Sweden the higher dispersion in the private sector is due to relatively large returns at the top part of the distribution. As opposite, in Finland, Portugal and the UK the higher dispersion within private sector workers is due to relatively low returns at the bottom part of the distribution.

---------- Insert Figure 1 about here -------

Institutional differences across countries seem to indicate that "a glass ceiling effect" characterizes the public sector in the first group of countries, while in the second group the public sector is better described by a "high floor effect". Poterba and Rueben (1994), Disney and Gosling (1998), Mueller (1998), Melly (2005) and, more recently, Papapetrou (2006), use quantile regression to analyze the wage effects of having a public sector job. They show that, by offering a higher floor for the low skilled (those located at the lower quantiles) and imposing a lower ceiling to the high skilled (those located at the upper quantiles), the public sector compresses wages. Our results offer a complementary and novel view: as far as education is concerned, the public sector compresses wages by offering to the high-skilled (upper quantiles) a lower return to education and a higher return to the low-skilled (lower quantiles).

V. Discussion

Even though testing hypotheses is beyond the scope of this paper, we may advance some explanations that account for the lower dispersion in the public sector. Conditional on observable characteristics, those individuals that are located at higher quantiles of the earnings distribution have, presumably, more skills, where skills include ability, motivation, better academic credentials and other unobservable characteristics affecting productivity. The estimates show that while these favourable characteristics interact positively with schooling in the private sector, they are mostly innocuous in the public sector. A candidate explanation is that relative to the private sector, the public sector has a wider union presence and a more effective use of union power, less incentives relating wages to productivity, smaller monopsony and discrimination effects, and less flexibility in wage determination. Arguably, these factors conduct to a much flatter wage structure and, more specifically, to a more homogeneous reward to education.

A complementary view is that unobserved skills may be more evenly spread within the public sector, thus resulting into smaller differences within groups. The State may have some interest to be perceived as a "good employer" and, consequently, end up offering (relatively) high wages to unskilled workers and (relatively) low wages to the high-skilled. Such mechanism would create incentives for the most skilled to move on to the private sector and for the less skilled to enter in the public sector. Given the limited access to public sector jobs, these effects would result into a homogenization of skills in the public sector rather than in the private sector. This view is consistent with the evidence reported in Borjas (2002), who shows that despite higher average wages, the US public sector finds it difficult to attract high-quality workforce due to lower earnings at the top part of the wage distribution.

VI. Conclusions

According to the international evidence, schooling exerts a positive impact on within-groups wage dispersion. This finding raises serious concerns about the inequality-reducing scope that is commonly attributed to schooling, as it suggests that an educational expansion may raise overall wage inequality. Most studies, however, are based on private sector data and, up to date, the inequality implications of schooling among public servants are mostly unknown. This is somewhat surprising, as more than one fifth of the European labour force works in public sector jobs.

In this paper we asked: does the conditional wage distribution of education groups differ between the private and public sectors? To answer this question, we used recent comparable data from eight European countries. Drawing on quantile regression, we showed that in the private sector schooling has an effect on the location as well as on the shape of the conditional wage distribution: conditional on observable characteristics, educated workers display higher wages and higher wage dispersion. In the public sector, in turn, the effect of schooling is on the location rather than on the shape of the distribution: conditional on observable characteristics, educated workers display higher wages but not necessarily higher wage dispersion. This result warns that the positive association between education and within-groups wage inequality reported by previous work does not generally apply to the public sector.

A limitation of our study is that, given the international coverage of the paper, we do not explore selection effects nor do we control for the endogeneity of schooling. These extensions are considered outside the scope of the present paper, which concentrates on distributional aspects.

Our results have several implications. First, the allocation of qualified workers between the private and the public sector is important in shaping overall wage inequality. It has been

documented that a large fraction of university graduates end up in public sector employment (Blank, 1985, Terrell, 1993, Disney and Gosling, 1998). Given the lower dispersion in this sector, the effects of the European educational expansion on overall wage dispersion may be smaller than previously thought[7]. We think that it is high time that sector effects were explicitly taken into account when inspecting how changes in education groups and the market price of education have affected the European earnings distribution over the last years.

Second, differences in the shape of the distributions may importantly affect the sorting of workers across sectors. Belman and Heywood (1989) find evidence that workers self select by systematically locating in the sector that offers them the higher expected wage. In the same vein, Borjas (2002) shows that transitions between the public and private sectors are strongly influenced by the distribution of wages in each sector. In this paper we showed that high-skill individuals –further to the right of the conditional wage distribution– obtain larger returns from their educational investment. This effect is large in the private sector and small in the public sector. It is likely, therefore, that the European Union public sector finds it difficult to attract high-skill workers and to prevent high-skill workers from quitting and moving on to the private sector. Extending Borjas's analysis to European countries would prove fruitful to evaluate the size of these filter effects.

The third implication has to do with the demand for education. Bonin *et al.* (2006) find strong evidence that risk averse individuals have preferences for occupations with less dispersion. According to this, risk averse individuals may be inclined to choose education careers that are oriented towards public sector work.

[7] The educational update was intense during the nineties. In Europe, the proportion of individuals with less than upper secondary education fell from 45% in 1991 to 33% in 2001, while the proportion of individuals with upper secondary or tertiary education rose from 55% in 1991 to 77% in 2001 (OECD, 2004).

Appendix A. Description of data sources and estimating samples

Table 1A. National datasets

Country	Data source	Year	Final number of observations	Wages
Finland	Labour Force Survey (LFS)	2001	5,356	Gross
France	Labour Force Survey (LFS)	2001	21,142	Gross
Germany	German Socio-Economic Panel (GSOEP)	2000	1,895	Gross
Italy	Survey of Household Income and Wealth (SHIW)	2000	2,116	Net
Norway	Level of Living Surveys (LLS)	2000	974	Gross
Portugal	Labour Force Survey (LFS)	2000	5,738	Net
Sweden	Level of Living Survey (LLS)	2000	973	Gross
UK	Labour Force Survey (LFS)	2003	14,642	Gross

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Tables

Table 1. Descriptive statistics

Private sector							
				Wage Ratios			
	Share	Schooling	Experience	9/1	9/5	5/1	Gini
Finland	82.7	12.07	18.04	2.85	1.58	1.80	.284
France	80.5	12.62	21.39	2.78	1.90	1.46	.261
Germany	81.9	13.29	21.14	2.85	1.79	1.59	.255
Italy	81.4	11.05	20.65	2.50	1.73	1.44	.225
Norway	73.3	12.44	19.09	2.16	1.59	1.35	.202
Portugal	79.1	6.80	21.40	2.88	1.95	1.48	.237
Sweden	75.2	12.30	18.16	1.90	1.52	1.25	.156
UK	79.1	12.91	17.95	3.52	1.94	1.81	.271
Public sector							
				Wage Ratios			
	Share	Schooling	Experience	9/1	9/5	5/1	Gini
Finland	17.3	13.11	21.50	2.63	1.70	1.55	.242
France	19.5	13.52	23.24	2.57	1.73	1.48	.227
Germany	18.1	14.48	20.00	2.34	1.59	1.47	.192
Italy	18.6	12.29	25.39	2.27	1.67	1.36	.198
Norway	26.7	14.08	20.42	1.72	1.34	1.28	.140
Portugal	20.9	8.22	24.00	3.38	2.08	1.62	.279
Sweden	24.8	13.88	22.53	2.11	1.60	1.32	.159
UK	20.9	14.04	21.97	3.17	1.71	1.85	.242

Table 2. Average and quantile returns to schooling – Private sector

	OLS	10q	25q	50q	75q	90q
Finland	**8.98*****	7.95***	7.95***	8.85***	9.66***	9.83***
	(.33)	(.74)	(.41)	(.22)	(.33)	(.52)
France	**7.39*****	4.10***	5.78***	7.30***	8.72***	9.77***
	(.11)	(.16)	(.14)	(.10)	(.14)	(.18)
Germany	**7.04*****	4.66***	6.24***	6.53***	7.25***	7.87***
	(.33)	(.82)	(.51)	(.34)	(.27)	(.46)
Italy	**5.67*****	5.01***	4.45***	4.80***	5.74***	6.99***
	(.25)	(.51)	(.38)	(.28)	(.33)	(.38)
Norway	**7.95*****	6.24***	6.30***	7.04***	8.59***	9.29***
	(.50)	(.79)	(.63)	(.40)	(.71)	(1.19)
Portugal	**7.31*****	5.17***	5.92***	7.46***	8.00***	8.10***
	(.14)	(.23)	(.24)	(.19)	(.15)	(.19)
Sweden	**6.08*****	2.19***	3.89***	5.79***	7.53***	8.20***
	(.42)	(.83)	(.64)	(.41)	(.61)	(.87)
UK	**6.58*****	4.89***	5.85***	6.84***	7.45***	7.22***
	(.13)	(.25)	(.22)	(.16)	(.17)	(.18)

Note: i) * signals significant at the 10% level, ** signals significant at the 5% level, and *** signals significant at the 1% level; ii) standard errors in parenthesis; iii) OLS estimation is heteroskedastic-robust.

Table 3. Within-groups wage inequality – Private sector

	90q-10q	90q-50q	75q-25q	75q-50q
Finland	1.88**	0.98*	1.71***	0.81**
France	5.67***	2.47***	2.94***	1.42***
Germany	3.21***	1.34***	1.01***	0.72**
Italy	1.98***	2.19***	1.29***	0.94***
Norway	3.05**	2.25***	2.29***	1.55***
Portugal	2.93***	0.64*	2.08***	0.54**
Sweden	6.01***	2.41***	3.64***	1.74***
UK	2.33***	0.38*	1.60***	0.61**

Note: i) * signals significant at the 10% level, ** signals significant at the 5% level, and *** signals significant at the 1% level.

Table 4. Average and quantile returns to schooling – Public sector

	OLS	10q	25q	50q	75q	90q
Finland	**9.73*****	9.35***	9.42***	8.52***	9.63***	10.09***
	(.45)	(.74)	(.59)	(.38)	(.46)	(.76)
France	**5.88*****	4.37***	5.25***	5.10***	5.44***	7.18***
	(.15)	(.25)	(.16)	(.16)	(.14)	(.25)
Germany	**5.80*****	4.83***	5.39***	5.62***	5.54***	5.93***
	(.45)	(.81)	(.40)	(.36)	(.43)	(1.06)
Italy	**4.44*****	3.04***	3.13***	2.79***	4.67***	5.53***
	(.49)	(1.10)	(.51)	(.57)	(.65)	(.88)
Norway	**4.91*****	4.95***	4.17***	4.13***	4.15***	4.53***
	(.45)	(.78)	(.31)	(.29)	(.32)	(1.01)
Portugal	**8.25*****	7.37***	8.46***	8.38***	8.19***	8.48***
	(.24)	(.64)	(.38)	(.31)	(.28)	(.57)
Sweden	**5.06*****	2.40***	3.04***	4.84***	5.95***	6.22***
	(.51)	(.54)	(.46)	(.62)	(.82)	(1.36)
UK	**7.09*****	6.75***	7.25***	7.03***	7.15***	7.06***
	(.23)	(.67)	(.31)	(.23)	(.26)	(.38)

Note: i) * signals significant at the 10% level, ** signals significant at the 5% level, and *** signals significant at the 1% level; ii) standard errors in parenthesis; iii) OLS estimation is heteroskedastic-robust.

Table 5. Within-groups wage inequality – Public sector

	90q-10q	90q-50q	75q-25q	75q-50q
Finland	0.74	1.57**	0.21	1.11***
France	2.81***	2.08***	0.19	0.34
Germany	1.10	0.31	0.15	-0.08
Italy	2.49**	2.74***	1.54**	1.88***
Norway	-0.42	0.40	-0.02	0.02
Portugal	1.11	0.10	-0.27	-0.19
Sweden	3.82***	1.38**	2.91***	1.11
UK	0.31	0.03	-0.10	0.12

Note: i) * signals significant at the 10% level, ** signals significant at the 5% level, and *** signals significant at the 1% level.

Figures

Figure 1. Returns to schooling at the selected quantiles